

Borough of



Cheltenham.

ANNUAL REPORT
OF THE
SANITARY ❀ CONDITION

ETC., ETC., OF THE

BOROUGH OF CHELTENHAM,
FOR THE YEAR 1915.

BY

J. H. GARRETT, M.D., D.P.H.,
MEDICAL OFFICER OF HEALTH.

Together with the Report of the Chief Sanitary Inspector
by Mr. A. E. Hudson.

ALSO THE

Annual Meteorological Report by Mr. A. C. Saxby.

"Salus Populi Suprema Lex."

PRINTED BY ORDER OF THE SANITARY AUTHORITY

CHELTENHAM:

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BOROUGH OF CHELTENHAM.

PUBLIC HEALTH COMMITTEE.

THE MAYOR (W. N. SKILLICORNE, Esq., J.P.)
(*Chairman*)

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MR. COUNCILLOR J. P. WINTERBOTHAM.

MR. COUNCILLOR W. J. F. WOOD.

Town Clerk—MR. R. OWEN SEACOME.

Borough Surveyor—MR. J. S. PICKERING.

MEDICAL OFFICER'S DEPARTMENT.

Chief Inspector of Nuisances—A. E. HUDSON.

Assistant Inspectors—

C. W. CLIFFORD. F. JACKETT.

Disinfector—W. TOWNSEND.

Clerk—H. G. DAVEY.

Medical Officer of Health—J. H. GARRETT, M.D., D.P.H.

Assistant Medical Officer—JOHN SELFIE, M.R.C.S., L.R.C.P., D.P.H.

Afterwards—I. J. McDONOUGH, L.R.C.P. & S., D.P.H.

*To the Mayor and Members of the Sanitary
Authority of the Borough of Cheltenham.*

GENTLEMEN,—

I beg leave to present my Annual Report for the year 1915.

I have to notice here as a matter of great regret the death of Mr. W. N. Skillicorne, J.P., which took place last year during his mayoralty, as the result of an accident to his motor car. Mr. Skillicorne had been associated with the Public Health work of the Borough for many years as Chairman of the Public Health Committee.

The Public Health Statistics of the Borough were not favourable last year as compared to other recent years, and it appears that in some indirect way the war had an adverse influence upon the death-rate.

The birth-rate was the lowest on record, though only very little lower than in the previous year, but for the first time in the modern history of the town, the actual number of deaths registered exceeded the number of births, making the natural increase a minus quantity.

Otherwise the local appearances seemed to indicate that the town was fairly full and prosperous, a condition added to during part of the year by the soldiery billeted here, as well as by an inflow of visitors and new settlers.

With the passing of the war we may hope to return to normal statistics.

I have the honour to be, Gentlemen,

Your obedient servant,

J. H. GARRETT,

Medical Officer of Health.

March 13th, 1916.

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Natural and Social Conditions of the District.

Character of the Town.

Cheltenham is an inland town of the West Midlands whose population in the main is of a residential character. For the better class residents its chief attractions lie in its several Colleges and Schools that give high class education facilities for those with families of children to educate, and apart from this advantage, the place is an excellent centre for all the country sports and pastimes dear to the English mode of life, and affords considerable social intercourse for persons of mutual tastes and experiences.

Considering that the true character of the town is as above indicated, the population exhibits an unexpectedly large number of poor persons, which inhabit streets that in their meanness create a sharp contrast to the splendid avenues and terraces occupied by the superior class. These poor streets lie apart, however, rarely being in very immediate contact with the superior houses. A redeeming feature of these poor localities lies in the fact that there is very little overcrowding of houses or ground. The poorest streets, and the few rows of back-to-back houses that exist, have open ground near about them and plenty of it within a short distance.

In the poor neighbourhoods many houses exist of much too small a size, and of too incommodious conveniences to be counted as respectable and sufficient habitations, but the population inhabiting these small houses has considerably declined of recent years, and the average number of occupants per house is now small, so that the overcrowding of these houses is now rather occasional than common. No doubt this results from a mixture of causes, in which education of a general sort, and in sanitary matters in particular, has been effective, and less early marriages and limitation of families have also had their influence. In many of these streets children are now, unfortunately, far from numerous.

Geology and Altitude.

The subsoil within the borough bounds consists chiefly of clay of the lias formation, or of a sharp overlying drift sand which fills up depressions in the clay to a depth varying up to 50 feet or more. About half the town stands on sand, and half on clay. The surface drainage is generally good, and it can scarcely be said that the sewerage of the town has presented any difficulty at any part.

The altitude varies from towards the base of the Cotswold Hills on the East and South sides, where about 300 feet above mean sea level is reached within the town limits, to the extreme western bounds, where about 150 feet represents the altitude, and the fall from East to West through this loss of height is fairly gradual and continuous. The gradients within the town are, in fact, everywhere easy.

Population.

The enumeration at the census of 1911 showed the population of Cheltenham to be 48,942. This was a decrease of a few hundreds from the number of the previous census. In his mode of estimating the population of a town for any inter-censal year the Registrar-General usually supposes the rate of decrease or increase to be continuous and at the same

average rate as indicated at the last census. This method can never be more than approximately accurate, and the following census count often shows it to have been very erroneous. Generally speaking, in a town like Cheltenham, the Medical Officer of Health is in a better position than the Registrar-General in this matter, on account of his opportunities of local observation of facts bearing upon the number of the population, such as any change in the number of houses inhabited. I think the population of Cheltenham, apart from visitors, has lately been nearly stationary, and I have kept it at 49,500 for the statistical purposes of this report for the last three or four years. This is greater than the census number of 1911 by no more than 558, and there were causes which I pointed out in a previous report which resulted in certain of our inhabitants escaping being counted at the last census for a certain definite purpose. I therefore retain the number 49,500 for this report.

For last year the Registrar-General has endeavoured to correct the population for removals due to the War. For this purpose he has used the numbers obtained last August in the registration effected by the Government for military use. By an indirect comparison of the numbers so registered at certain ages with the numbers at the same ages counted at the last census, he has endeavoured to get at the population of the various districts of the country. But so far as Cheltenham is concerned, the method works badly, for certain reasons that I have recently explained to him by letter, when I found that his estimated population for Cheltenham for 1915 amounted to 43,266, which is 4,676 fewer than the last census numbers, and 6,234 fewer than the stationary population of 49,500 of my adoption. The removal of military recruits from our midst in 1915, apart from war casualties, which are excluded, could have made but a very slight difference to the number of deaths normally due to us, as they consisted of men of a selected class and age, amongst whom the death-rate is normally very low.

Vital Statistics.

Area of Municipal Borough	...	...	...	acres, 4,726
Rateable Value	...	...	...	£320,836
Estimated Population at middle of last year	...	...	...	49,500
Population at the 1911 Census	...	...	...	48,942,
Persons per Acre in the Borough at Census 1911	...	...	...	10·3
Persons per separate Family	...	...	...	4·31
Death Rate, 1915 (crude)	...	per 1,000 living inhabitants	...	15·9
" " (corrected)	...	"	"	13·8
Average Death Rate for previous 10 years (crude),	...	...	"	13·8
" " " " (corrected)	...	...	"	12·0
Zymotic Death Rate for 1915	...	...	"	·63
Average Zymotic Death Rate for the previous 10 years	...	...	"	·86
Pulmonary Tuberculosis Death Rate, 1915	...	...	"	·99
Average Pulmonary Tuberculosis Death Rate for	...	...	...	...
the previous 10 years	...	...	"	·83
Birth Rate, 1915	...	...	"	15·4
Average Birth Rate for previous 10 years	...	...	"	17·7
Infant Death Rate, 1915, per 1,000 children born	...	...	...	89
Average Infant Death Rate for the previous 10 years	...	...	...	98

Births and the Birth Rate.

The number of births attributable to the Borough in 1915 is 772, giving a birth rate lower than ever before recorded of 15·4 per thousand living inhabitants. In the previous year it was 15·9. The recession of the birth rate has been gradual and continuous as is fairly represented by the following three quotations: The birth rate in 1895 was 24·7, in 1905 21·8, in 1915 15·4. Of the 772 births last year 59 were illegitimates. The expectant gossip set afloat a year or so ago which anticipated a large increase of illegitimacy on account of the quartering of soldiers in this and other towns is not borne out by the now revealed statistics, so far as this town is concerned, as will be seen by the following :

RATE OF ILLEGITIMACY IN CHELTENHAM DURING THE LAST SEVEN YEARS.

Year.		Number of Illegitimate Births.		Rate per 1,000 of all Births.
1909	.....	48	.....	50·9
1910	.....	60	.....	64·6
1911	.....	75	.. ...	80·0
1912	.....	46	.....	58·6
1913	.....	54	.....	68·8
1914	.....	51	.....	64·4
1915	.....	59	.....	76·4

Of the 772 births recorded for 1915 380 were girls, and 392 were boys.

The Infant Death Rate.

This is the annual rate of deaths among children within the first year of their lives, and is estimated at per 1,000 children born during the same year. This rate was 89 last year. The infant death rate has gone down continuously, and with but slight fluctuations, during the last 30 years. For this there are probably several contributory causes, among which the better education and better modes and circumstances of life of the poor, will count in this connection as they do in the diminution of the general death rate, and the lessening of the general death rate and of the infant death rate in this borough has proceeded in almost equal ratio when the average of the last three decennia are struck. It is particularly since the beginning of this century that the infant death rate has here been lower. Taking the last 20 years in five four-yearly periods the decline is as follows:—1896—99 145, 1900—03 108, 1904—7 115, 1908—11 101, 1912—15 82. Thus, from the first of these periods to the last there is a lessening of the rate by 43 per cent. During these years the lowest rate was 68 in 1910.

Quality of the population, as indicated by the nature of the place of residence, appears to be largely responsible for infant deaths. Probably two things are mainly implicated, lowness of breed and carelessness of management, which are also two of the main concomitants of poverty. The relative death rate amongst illegitimate infants is always, and everywhere, much higher than the death rate amongst legitimate children. No doubt they are often the undesired, and their death brings a riddance of trouble and shame and begrudged expense.

Deaths and the General Death Rate.

The number of deaths registered in the borough during 1915 was 814; 61 of these deaths were of non-residents, that were referred to their proper localities. On the other hand 36 deaths of Cheltenham residents took place outside the district, and were referred back as belonging to us. The addition and subtraction being respectively made, the result is a nett number of 789 deaths belonging to Cheltenham, which gives a death rate on a population of 49,500 of 15·9. This rate, however, requires further correction. At the last census it was shown that the age constitution of our population is peculiar, there being many more persons here whose life expectancy is short by reason of advanced age than in any average population, or the population of the whole country. To reduce our death rate to the figure which is comparable to the standard rate for the whole country requires the crude number as above to be multiplied by the factor ·8709, which has been supplied from the census office. The net or standardised death rate of Cheltenham for 1915 is therefore $15·93 \times \cdot 8709$ or 13·87. The death rate for 1915 is thus considerably above the average rates for the previous ten years, which were 13·8 as against 15·9, and 12·0 as against 13·8. The death rate last year, in fact, was the highest for a good many years, and seems to bear out the suggestion I made in my last annual report that we have probably reached the minimum death rate obtainable for the present, seeing that there must always be a death rate, and that there are now factors at work, such as a heightened age incidence in the general population which tends to raise it. Probably the considerable rise of last year, which was noticed in many other districts besides Cheltenham, has some indefinite connection with the war, apart, of course, from the slaughter of soldiers, which does not affect our local statistics.

The comparison of the birth rate with the death rate of Cheltenham for 1915 shows that the latter slightly exceeded the former. So far, in fact, as the registrations entered by the local registrar are concerned there were 44 more deaths than births. This is the first time such an experience has been recorded in the chronicles of Cheltenham.

Zymotic Disease Death Rate.

The seven diseases usually combined to give what is called the Zymotic death rate, and which are enumerated in the first table forward, have to be accredited with producing a moderate number of 31 deaths, giving a death rate of ·63. There is nothing in this record upon which to make particular comment.

The Cancer Death Rate.

This was again high last year. There were 75 deaths from this disease out of a total of 789 deaths, or about 1 death from cancer in every $10\frac{1}{2}$ deaths. The death rate upon the whole population works out to 1·51 or about the same as two years ago, when it was 1·55. The special quality of our population in regard to the relatively high number of inhabitants of advanced age, is no doubt the chief, and, perhaps, the only cause, for this high rate, though it is not possible to correct it to a standard as in the case of the general death rate. Of the 75 deaths, 66 were at ages over 45, 35 at ages over 65,

The cause of cancer is still to seek, for all the research has to the present resulted in no enlightenment. The number of deaths in our town last year occurring from this disease also speaks eloquently of the absence of any known cure or preventive.

The Tuberculosis Death Rate.

There were 49 deaths registered from Phthisis or Tuberculosis of the Lungs, giving an annual death rate of nearly 1 per 1,000 inhabitants. This is higher than the previous year, when the rate was $\cdot 78$, and somewhat higher than the average rate for this town. All other tuberculous diseases produced together last year a death rate equal to $\cdot 36$ per 1,000.

Respiratory Disease Death Rate.

These are the respiratory diseases other than phthisis, chiefly bronchitis and pneumonia. They gave a death rate last year of $2\cdot 14$, which is somewhat above the average for this town, where these diseases are not so rife as in some other districts.

General Comment upon the Causes of the Heightened Death Rate in 1915.

It may be interesting to learn the causes which accounted for the increase in the number of deaths that occurred in the borough last year, as compared with the previous year, which was an average year, and which raised the death rate two points per thousand above the average. First it must be noted that there were an unusual number of deaths of old people, whom the agitation of the great war may very likely have affected. Of the 789 deaths 243 were over 75 years of age, an increase over the previous year of 49. The deaths assigned to old age, or senile decay, numbered 95, or 24 in excess of the previous year, and other influences affecting aged persons in a higher degree than usual, were heart disease, apoplexy, and influenza. Cancer was also in excess, as an important cause of death, and the fact of our having 7 deaths from rheumatic fever, showed that the year was unusually rheumatic, for this is quite a top record for Cheltenham, where rheumatic fever as a general experience is a rather rare disease. This evidence of an inordinate rheumatic influence rather points to the cause of the increased number of deaths from heart disease. There were 6 deaths from pernicious anæmia, with a couple more from the related causes of leucæmia and Hodgkin's disease. There were also three deaths from Graves' disease, which sufficiently accentuates the association of enlarged thyroid with the Cotswold escarpment. There were also 5 deaths from appendicitis, and 7 more from obstructive conditions of the intestine.

Ward Statistics.

In the adjacent table the death rates from all and sundry causes in the whole of the town, and in each of the six Wards may be compared. The North Ward, it will be remembered, contains the greatest number of poor residents, and its death rate last year was much higher than that of either of the other Wards, and it will be noticed that all of the important causes of death, which may be supposed could be affected by measures of prevention, are represented in excess in this Ward.

Table of Statistics for the last 10 years, showing Deaths from Chief Zymotic Diseases, and Zymotic Death-rate, and Total Deaths and General Death-rate; also Total Births and Birth-rate per 1,000 of population, and (under 1 year old) Infant Death-rate per 1,000 children born.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Small Pox ...	...	...	...	...	...	...	...	...	...	...
Measles ...	7	...	...	47	...	34	1	17	...	6
Scarlet Fever ...	1	...	...	...	...	1	1	4	1	5
Diphtheria ...	9	7	1	3	3	...	2	3	12	7
Whooping Cough ...	1	7	3	5	9	3	9	...	2	2
Enteric and Continued Fevers ...	1	2	2	2	4	4	...	2	4	1
Diarrhœa, Enteritis, &c., in Young Children ...	16	15	16	21	9	37	4	18	13	10
Total Deaths from seven chief Zymotics...	35	31	22	78	25	79	17	44	32	31
Death-rate from Chief Zymotics ...	·68	·60	·43	1·51	·49	1·60	·34	·88	·64	·63
Total Deaths belonging to District ...	711	708	641	784	624	696	655	743	695	789
General Death-rate ... (Uncorrected for unusual age incidence).	13·9	13·8	12·5	15·2	12·1	14·1	13·2	15·0	14·0	15·9
Total Births belonging to district ..	975	881	955	949	926	937	784	784	791	772
Birth rate ...	19·1	17·2	18·7	18·4	18·0	19·0	15·8	15·8	15·9	15·4
Infant Death-rate per 1,000 Children born ...	100	95	90	119	68	127	66	88	86	89

WARD STATISTICS.

Table showing Vital Statistics in each Ward of the Town during 1915.

				Whole Town	North Ward	South Ward	East Ward	West Ward	Central Ward	Middle Ward
Population ...	...	...	...	49,500	9,676	9,073	8,368	6,352	6,611	8,862
Death-Rate from all causes (uncorrected)				15.93	23.1	12.3	17.8	13.2	16.2	13.8
Zymotics ...	...	...	...	.63	1.03	.33	.12	.31	.91	.67
Phthisis ...	...	...	...	.99	1.34	.88	1.19	.47	.60	.56
Other Tuberculous Diseases ...	...	...	...	.36	.51	.33	.47	.15	.00	.45
Respiratory Diseases ...	...	...	...	2.14	2.37	1.87	1.79	1.89	2.87	2.03
Cancer ...	...	...	...	1.51	1.03	1.43	1.91	1.26	1.81	1.69
Birth-rate ...	...	..	...	15.4	23.7	15.2	16.9	11.0	16.2	9.3
Infant Death-rate under 1 year old	...			89	109	65	127	28	28	120
PER 1000 CHILDREN BORN.										

Deaths Certified by Coroners after Inquests in 1915 pertaining to the Borough of Cheltenham.

Accidents by falls and injuries therefrom	...	...	...	5
„ to or by motor vehicles	...	...	...	3
Accident by drowning	...	...	...	1
Anæsthetic and spasm in glottis	...	...	...	1
Apoplexy (cerebral hæmorrhage)	...	...	...	2
Arterio-sclerosis	...	...	...	1
Atrophy and bronchitis	...	...	...	1
Burns and their result	...	...	...	1
Convulsions	...	...	...	2
Diphtheria	...	...	...	2
Diarrhœa	...	...	...	1
Heart disease, heart failure, syncope	...	...	...	4
Inflammation of kidneys and uræmia	...	...	...	1
Pneumonia or broncho-pneumonia	...	...	...	2
Premature birth and collapse of lung	...	...	...	1
Opium poisoning (chronic) and kidney disease	...	...	...	1
Senile decay	...	...	...	1
Suicide (or presumable suicide) “ found drowned ”	...	...	...	2
„ „ „ „ cut throat and hæmorrhage	...	...	...	1
Veronal, overdose of	...	...	...	1
				—
				34
				—

Deaths Uncertified in 1915 were attributed as follows :—

Cerebral hæmorrhage at age 55	...	...	...	1
Heart disease at age 73	...	...	...	1
Prematurity at age 15 minutes	...	...	...	1
Rheumatoid arthritis and heart failure at age 75	...	...	...	1
Senile decay at ages 88, 89, 84	...	...	...	3
Uræmia at age 42	...	...	...	1
				—
				8
				—

Local Government Board Table No. I.—Vital Statistics of whole District of the Borough of Cheltenham during 1915 and previous years.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		NETT DEATHS BELONGING TO THE DISTRICT.			
		Uncorrected Number.	Nett.		Number.	Rate.	of Non-residents registered in the District	of Residents not registered in the District	Under 1 Year of age		At all Ages	
			Number.	Rate.					Number.	Rate per 1,000 Nett Births.	Number.	Rate
1909	51,500	949	...	18.4	814	15.8	30	...	113	119	784	15.2
1910	51,500	926	..	18.0	639	12.4	32	17	63	68	624	12.1
1911	49,200	943	937	19.0	712	14.5	39	23	119	127	696	14.1
1912	49,500	783	784	15.8	656	13.2	28	27	52	66	655	13.2
1913	49,500	783	784	15.8	751	15.1	44	36	69	88	743	15.0
1914	49,500	788	791	15.9	694	14.0	48	49	68	86	695	14.0
1915	49,500	770	772	15.4	814	16.4	61	36	69	89	789	15.9

Area of District in acres

4,726

Total population at all ages.....

48,942

Number of families or separate occupiers...

11,346

Average No. of persons per family

4.31

At

Census

1911

Local Government Board Table II.—Cases of Infectious Disease notified during the year 1915
for the Borough of Cheltenham.

NOTIFIABLE DISEASES.	Number of Cases Notified.							Total Cases notified in each Locality.						Total cases removed to Hospital.	
	At all Ages	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 & upwards.	North Ward.	South Ward.	East Ward.	West Ward.	Central Ward.		Middle Ward.
Diphtheria (including Membranous Croup)	58	...	16	25	8	6	3	...	9	10	15	4	3	16	42
Erysipelas	47	...	2	5	9	7	22	2	19	9	5	4	4	6	...
Scarlet Fever	218	2	45	122	28	19	2	...	64	28	51	23	20	33	200
Enteric Fever	7	...	...	2	1	3	1	...	4	1	2	...	...	...	3
Puerperal Fever and Septicæmia	3	...	...	...	...	3	...	...	1	1	1	...	...	...	2
Cerebro-spinal Meningitis	18	2	2	4	4	4	2	...	6	2	3	3	3	1	6
Poliomyelitis	2	...	...	2	...	...	...	...	1	1	...	...	...	...	1
Ophthalmia Neonatorum	8	8	...	...	...	...	...	...	3	2	2	...	1	...	3
Pulmonary Tuberculosis	92	...	...	8	23	43	15	3	35	8	20	5	14	10	...
Other Forms of Tuberculosis	52	...	6	13	13	16	3	1	8	22	7	3	5	7	...
Totals ...	505	12	71	181	86	101	48	6	150	84	106	42	50	73	257

CAUSES OF DEATH.	Nett deaths at the subjoined ages of "Residents" whether occurring within or without the District.								Total Deaths in Institutions in District	
	All Ages.	Under 1.	1 and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and under 65.		65 and upwards.
Enteric Fever	1	...	...	...	1	...	...	...	...	1
Measles	6	2	...	3	1	...	...	...	...	2
Scarlet Fever	5	...	...	2	3	...	...	...	...	5
Whooping Cough	2	2	...	...	...	...	...	...	...	...
Diphtheria and Croup	7	...	...	...	...	1	...	...	...	4
Influenza	25	2	...	...	1	...	1	6	15	2
Erysipelas	2	...	...	...	...	...	1	1	...	2
Phthisis (Pulmonary Tuberculosis)	49	...	...	...	2	7	27	12	1	14
Tuberculous Meningitis	10	1	...	3	4	...	1	1	...	5
Other Tuberculous Diseases	9	1	...	1	3	1	...	3	...	7
Cancer, Malignant Disease	75	...	...	...	...	...	9	31	35	20
Rheumatic Fever	7	...	...	...	1	...	5	1	...	3
Meningitis (Cerebro-Spinal)	10	1	...	...	2	4	1	2	...	7
Organic Heart Disease	97	...	...	...	1	1	2	27	66	9
Bronchitis	51	4	2	...	...	1	1	9	34	...
Pneumonia (all forms)	50	9	3	...	2	...	4	9	23	14
Other Diseases of the Respiratory Organs	5	...	...	...	...	...	...	1	4	...
Diarrhoea and Enteritis	12	10	...	...	...	...	...	1	1	...
Appendicitis and Typhlitis	7	...	...	1	1	1	1	3	...	4
Cirrhosis of Liver	4	...	...	...	...	...	1	3	...	4
Alcoholism	2	...	...	...	...	...	1	1	...	2
Nephritis and Bright's Disease	28	...	...	...	1	...	3	11	12	1
Puerperal Fever	2	...	...	...	...	...	2	...	...	5
Other Accidents and Diseases of Pregnancy and Parturition	1	...	...	...	...	...	...	1	...	...
Congenital Debility and Malformation, including Premature Birth... ..	24	24	...	...	...	...	...	...	5	6
Violent Deaths, excluding Suicide	13	1	...	1	...	1	...	5	...	2
Suicides	3	...	...	...	...	1	1	1	...	...
Other Defined Diseases	281	11	1	1	4	1	21	41	201	78
Diseases ill-defined or unknown	1	1	...	...	...	...	...	...	...	...
All causes { Certified Deaths	781	68	6	14	32	19	81	169	392	203
{ Uncertified Deaths	8	1	...	...	...	...	1	1	5	...

Local Government Board Table IV.—Infantile Mortality during the Year 1915 in the Borough of Cheltenham.
Nett deaths at stated causes at various ages under 1 year of age.

CAUSE OF DEATH.		Under 1 week	1-2 weeks	2-3 weeks	3-4 weeks	Total under 1 month	1-3 months	3-6 months	6-9 months	9-12 months	Total Deaths under 1 year
Influenza ...	...	...	...	...	...	...	...	...	2	...	2
Measles ...	...	...	...	...	...	...	...	...	...	2	2
Whooping Cough ...	...	...	...	...	...	...	...	2	1	...	2
Other Tuberculous Diseases	...	...	...	...	...	...	1	...	...	...	2
Meningitis (<i>Cerebro-Spinal</i>)	...	...	...	...	...	...	...	2	...	...	2
Convulsions ...	...	...	...	...	...	...	...	...	...	...	2
Bronchitis ...	...	...	1	...	1	2	1	1	...	...	1
Pneumonia (all forms) ...	...	...	...	...	...	...	1	1	...	...	2
Diarrhoea ...	...	...	...	...	...	...	1	...	5	3	4
Enteritis and Gastro-Enteritis	...	...	...	...	2	2	1	3	...	...	9
Syphilis ...	...	1	...	...	...	1	...	...	...	...	1
Congenital Malformations	...	2	...	...	...	2	...	...	...	...	2
Premature Birth ...	...	9	1	...	1	13	...	1	...	...	15
Atrophy, Debility, Marasmus, Asthenia	...	2	1	...	...	5	6	1	...	...	12
Other Causes ...	...	1	...	...	...	3	...	1	...	...	5
All causes { Certified Deaths ...	...	14	6	3	4	27	13	11	8	9	68
{ Uncertified Deaths	...	1	...	...	...	1	...	...	...	...	1

Nett Births in the year	{	Legitimate, 713. Illegitimate, 59.
Nett Deaths in the year	{	Legitimate infants, 57. Illegitimate Infants, 12.

BOROUGH OF CHELTENHAM.

Causes of Death pertaining to the District in 1915.

(Nomenclature and arrangement according to the International List).

CAUSES OF DEATH.	AGES AT DEATH.								Total at all Ages.
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 to 75	75 and upwards	
I.—GENERAL DISEASES.									
Enteric Fever			1						1
Measles	2	3	1						6
Scarlet Fever		2	3	.					5
Whooping Cough	2								2
Diphtheria		1	5	1					7
Erysipelas					1	1			2
Influenza	2		1		1	6	4	11	25
Pulmonary Tuberculosis			2	7	27	12	1		49
Acute Miliary Tuberculosis			1						1
Tuberculous Peritonitis				1		1			2
Tuberculous Meningitis	1	3	4		1	1			10
Tuberculous Enteritis		1							1
Tabes Mesenterica	1								1
Tuberculous Spine			1						1
Tuberculous Pleurisy						1			1
General Tuberculosis			1			1			2
Congenital Syphilis	1								1
Cancer					9	31	24	11	75
Rheumatic Fever			1		5	1			7
Rheumatic Gout... ..						2		1	3
Diabetes					2	3	1	1	7
Leuchæmia						1			1
Pernicious Anæmia					1	4	1		6
Hodgkin's Disease						1			1
Addison's Disease							1		1
Graves' Disease						2	1		3
Banti's Disease			1						1
Alcoholism					1	1			2
II.—DISEASES OF THE NERVOUS SYSTEM.									
Cerebral Abscess					1				1
Cerebro-Spinal Meningitis	1		2	4	1	2			10
Apoplexy, Cerebral Hæmorrhage					1	6	19	35	61
Cerebral Softening						2			2
Hemiplegia							1	3	4
Spinal Paraplegia						2		1	3
General Paralysis of the Insane					4	1			5
Dementia... ..								1	1
Epilepsy					1	2			3
Convulsions	2	1	1						4
Peripheral Neuritis							1		1
Cerebral Tumour						1			1

CAUSES OF DEATH.	AGES AT DEATH.								Total at all Ages.
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 to 75	75 and upwards	
III.—DISEASES OF THE CIRCULATORY SYSTEM.									
Acute Endocarditis			1		3	1			5
Organic Disease of Heart			1	1	2	27	30	36	97
Arterio Sclerosis						1	8	10	19
Atheroma							1		1
Aneurysm... ..						1	1		2
IV.—DISEASES OF THE RESPIRATORY SYSTEM.									
Bronchitis	4	2		1	1	9	15	19	51
Broncho-Pneumonia	7	1	1			4	2	6	21
Pneumonia	2	2	1		4	5	9	6	29
Pleurisy								1	1
Asthma						1	1	2	4
V.—DISEASES OF THE DIGESTIVE SYSTEM.									
Stricture of Æsophagus... ..						1			1
Duodenal Ulcer						2			2
Gastric Ulcer					3				3
Gastritis						1		2	3
Diarrhœa	1							1	2
Epidemic Enteritis	5								5
Epidemic Gastro-Enteritis	4								4
Enteritis						1			1
Colitis		1				1			2
Appendicitis			1	1	1	2			5
Hernia	1					2			3
Stricture of Bowel					1				1
Intestinal Obstruction			1				2		3
Cirrhosis of Liver					1	3			4
Hepatitis							1		1
Gall Stones						1		1	2
Cholecystitis					1		1		2
VI.—DISEASES OF THE GENITO-URINARY SYSTEM.									
Cystic Kidney								1	1
Acute Nephritis		1	1						2
Chronic Nephritis, Bright's Disease					3	11	9	2	25
Coli Nephritis							1		1
Uræmia					1		1		2
Cystitis							1	3	4
Renal Calculus						1			1
Urinary Calculus							1		1
Enlarged Prostrate							4		4
Ovarian Cyst								1	1
Uterine Fibroid						1			1

CAUSES OF DEATH.	AGES AT DEATH.							Total at all Ages.
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 to 75	75 and upwards
VII.—DISEASES CONNECTED WITH THE PUERPERAL STATE.								
Puerperal Septicæmia					2			2
Induced Labour						1		1
VIII.—DISEASES OF THE SKIN AND CELLULAR TISSUES.								
Infective Mediastinitis					1			1
Cellulitis of Leg						1		1
Ulcers of Leg						1		1
Pemphigus	1							1
Abscess				1		1		2
X.—MALFORMATIONS.								
Encephalocele	1							1
Birth Deformity	1							1
XI.—DISEASES OF EARLY INFANCY.								
Premature Birth	15							15
Asthenia	1							1
Debility	5							5
Atrophy	1							1
Marasmus	5	1						6
Dentition	1							1
XII.—OLD AGE.								
Old Age, Senile Decay, Senectus ...							8	87 95
XIII.—DEATHS PRODUCED BY EXTERNAL CAUSES.								
Suicide by Drowning (found drowned)...				1	1			2
„ Cut Throat						1		1
Accident by Burns		1						1
„ Fall						1	3	5
„ Death under Anæsthetic ...						1		1
„ Knocked down by Motor...						1	1	2
„ Overturned Motor... ..						1		1
„ Drowning				1				1
„ at Birth	1							1
„ Overdose of Veronal ...						1		1
XIV.—DEATHS FROM ILL-DEFINED CAUSES.								
Found Dead	1							1
Totals	69	20	32	19	82	171	154	243 789

Acute Infectious Diseases.

There was a considerable falling off in the numbers of cases of notifiable infectious diseases last year as compared with the two previous years. The total numbers, omitting tuberculosis, for the three years being :—1913, 447; 1914, 501; 1915, 361. The difference was mainly due to the passing of the heightened wave of scarlet fever. The table below shows the incidence of this and all the other notifiable diseases that have been certified since the beginning of 1890, when notification began here.

Number of cases of Zymotic Disease notified in Cheltenham since notification began.										
Year	Scarlet Fever	Diphtheria	Enteric Fever	Puerperal Fever	Small-pox	Erysipelas	Polyomyelitis	Cerebro-Spinal Meningitis	Infective Conjunctivitis	Ophthalmia Neonatorum
1890	93	16	24	2	...	...	...	...	...	...
1891	75	15	19	...	...	...	...	...	...	...
1892	264	10	10	...	...	...	...	...	...	...
1893	419	33	63	4	2	...	...	...	...	...
1894	147	26	27	1	3	...	...	...	...	...
1895	89	25	34	3	1	...	...	...	...	...
1896	126	60	26	4	22	...	...	...	...	...
1897	224	43	20	1	...	...	...	...	...	...
1898	296	52	23	5	...	...	...	...	...	...
1899	273	80	16	...	...	...	...	...	...	...
1900	103	74	32	1	...	21	...	...	...	...
1901	67	58	18	1	...	16	...	...	...	...
1902	147	63	18	3	1	19	...	...	...	...
1903	142	65	17	...	1	25	...	...	...	...
1904	143	59	7	...	...	25	...	...	...	...
1905	116	65	16	...	4	42	...	...	...	...
1906	104	61	24	6	1	37	...	...	...	...
1907	30	71	14	...	...	16	...	...	...	...
1908	79	53	12	1	...	20	...	...	...	...
1909	87	39	20	2	...	24	...	...	...	...
1910	81	90	8	2	...	27	...	...	...	...
1911	77	26	34	...	...	34	...	...	...	...
1912	193	19	10	...	...	27	...	...	...	...
1913	335	49	11	3	...	45	4	...	...	...
1914	328	103	17	5	...	39	1	1	1	9
1915	218	58	7	3	...	47	2	18	...	8
Average for all y'rs	163	50	20	1·8	1·3	29	2·3	9·5	·5	8·5

Scarlet Fever.

This disease has shown a sub-epidemic prevalence during the last four years. Reference to the table showing the notifications for the last 26 years may be made for information as to these ever recurring waves of scarlet fever in Cheltenham, and it will be seen that the periods of greater and smaller numbers follow each other with precision though being of unequal persistence in the number of years involved, the rise and the fall of the wave lasting sometimes for longer, sometimes for shorter periods. I have discussed in former reports the effect of hospital isolation in limiting the numbers of cases, and its failure, even where most rigidly applied, to prevent the recurring prevalence. Upon this occasion we may felicitate ourselves upon just having come through a four year period of exacerbation, the wave having a pretty high crest during two of these years. We may now anticipate a period of comparative quiescence, and hope that it may be a long one. In large towns Scarlet Fever is never extinct, and I have never known Cheltenham to be entirely free of it in 25 years, though on one occasion there was only one known existing case. This apparent freedom from infective influence did not however in any way save us from a recrudescence, with the occurrence of over 1000 cases in the four years of prevalence through which we have just passed.

Enteric Fever.

The seven cases notified last year with only one death constitutes a minimum visitation of this disease. Most of the cases appeared to have been contracted elsewhere than in this town. It is not uncommon for an attack of this disease to prove upon enquiry to have followed a visit away from home.

Diphtheria.

The 58 cases notified last year was somewhere near the average number for all years since the disease was first notified, and the seven deaths made a moderate case death-rate, the deaths being all in young persons, thus illustrating anew our former experience of the predominant danger of this disease for young children.

Influenza.

The 25 deaths directly attributed to this disease last year is a larger number than common, and this number, along with the fact that most of the deaths were in persons of advanced years, proves that influenza remains a dangerous disease amongst us, especially for people enfeebled by other complaints or by age.

Cerebro-Spinal Meningitis.

There was a quite unwonted prevalence of this disease throughout England last year with more cases than ever before recorded, though our knowledge of the cases that may hitherto have occurred has been limited

owing to the fact that it is only recently that the disease was added to the list of diseases to be notified.

A definite outbreak occurred in Cheltenham, and its cause according to such information as could be elicited by enquiry in each case, was connected with the soldiery, though only in an indefinite and indirect way. All the cases however, had had some connection with men in khaki. 18 cases were notified in the months February to August inclusive, one half of the cases occurring in the month of April. In no case could an infective influence be traced from any one case to any other. None of the 18 cases had been in contact or relation with or had any discoverable personal knowledge of any other one. They arose separately at widely scattered intervals, and though numerous other persons were in close contact with them during their illness, not one of these contacts took the disease. Corroborative evidence of the nature of the disease was generally obtained by lumbar puncture.

Some of the first cases were taken into the General Hospital but further cases were refused on the ground of the danger of infection, and other cases were sent to the infectious diseases hospital and placed in the typhoid wards which happened to be vacant. The experience gained, however, of the behaviour of the disease, in regard to its infectivity, was reassuring of first alarm, and so far as danger of spread by infection was concerned, no interest seemed to be served by removal to hospital, and the General Hospital seemed to be as appropriate a place for their treatment as the Fever Hospital, and their own houses as good as either. There was an advantage in the removal to hospital of certain of them, no doubt, in regard to convenience for treatment.

The 18 cases were of various ages, and there were 10 deaths.

The measures here adopted for prevention of spread of the disease were rather of a minimum than of a maximum description. No attempt was made to discover the germ in the throats of contacts, a process recommended by bacteriologists, excepting in regard to a case or two that occurred in soldiers, when the practice was resorted to by the military medical officers and resulted in some alarm and inconvenience, but so far as could be judged by a small amount of evidence was of no advantage, whilst the mode adopted was open to criticism as being irrational.

Disinfection of bedding and clothing and fumigation of apartments used by patients was practised here, and some amount of spraying of the throats of immediate relations who had been near the patients was carried out, but these measures were in my mind of very doubtful value.

The unusual number of 10 deaths from tuberculous meningitis in the town during the year is somewhat suggestive that some of these might have been of the nature of cerebral-spinal fever.

Vaccination.

The Vaccination Officer obliges me with the information that 236 children were successfully vaccinated in 1915, and that the conscientious objections numbered 467. This accounts for 703, and the number of births within the year was 772. Vaccination has gone steadily down for the past 10 years, the number vaccinated last year was very nearly the same in the previous year.

Vaccination in Years 1905-1915.

Year	No. of Births in year		Successfully vaccinated		Per centage of vaccinations to Births	
1905	...	995	...	609	...	61
1906	...	975	...	667	...	66
1907	...	881	...	565	...	64
1908	...	955	...	455	...	47
1909	...	949	...	460	...	48
1910	...	926	...	393	...	42
1911	...	943	...	383	...	40
1912	...	784	...	274	...	35
1913	...	784	...	252	...	32
1914	...	791	...	227	...	28
1915	...	772	...	236	...	30

ZYMOTIC DISEASES NOTIFIED in each month during 1915, and Numbers treated in Hospitals.

Month.	Scarlet Fever	Diphtheria	Enteric Fever	Puerperal Fever	Erysipelas	Polio-myelitis	Ophthalmia Neonatorum	Infective Conjunctivitis	Cerebro-Spinal Fever	Totals.
January	30	7	...	...	2	...	...	...	...	39
February.....	30	8	...	...	2	...	2	...	1	43
March	26	8	1	2	6	...	1	...	1	45
April	37	3	...	...	7	...	1	...	9	57
May	26	2	...	...	3	...	...	...	2	33
June	20	5	...	...	2	...	...	...	1	28
July	15	6	1	...	5	...	1	...	2	30
August	8	5	2	1	7	1	1	...	2	27
September ...	8	...	1	...	3	...	...	...	...	12
October	4	3	1	...	4	1	2	...	...	15
November ...	6	3	...	...	4	...	...	...	...	13
December ...	8	8	1	...	2	...	...	...	...	19
The 12 months Totals	218	58	7	3	47	2	8	...	18	361
Tot'l no. treated in Hospitals...	197	36	3	2	3	1	1	...	12	255

The Prevalence and Control over Tuberculosis.

The number of new cases of Tuberculosis notified last year was 144 as against 153 in the previous year. 92 of these were pulmonary cases, or tuberculosis of the lungs, and in the remaining 52 cases the disease attacked other parts of the body. The actual organs affected were as below :—

Tuberculosis of the lungs	...	...	...	92
„ „ larynx	...	...	...	4
„ „ bones, including hip, knee, spine, foot and leg, shoulder, elbow, clavicle, wrist				11
Tuberculosis of cervical glands	...	...		9
„ „ peritoneum and mesentery	...	...		6
„ „ pleura	...	...	...	3
„ „ skin, including nose, hand, neck, face	...	...	...	5
„ „ the meninges	...	...	...	8
„ „ parts of the eye	...	...	...	4
„ „ bladder (1), testes (1)	...	...	...	2
				—
				144
				—

The County Tuberculosis Medical Officer, Dr. Arnott Dickson, has furnished me with the following statement of cases pertaining to this town which were attended by him and the visiting nurses last year.

Number of cases examined at the Dispensary, 1915	...	89
„ attendances at the Dispensary	...	698
„ home visits	...	494
„ cases under observation at end of year	...	281

119 new cases were the subject of detailed formal reports by the visiting nurses, and the requirements of spitting bottles, disinfectant, paper handkerchiefs, etc., were attended to. Disinfection of things and rooms was also done in connection with all deaths from the disease, and upon other occasions as required.

Institutional treatment received by cases during the year is indicated by the admissions and discharges notified on Forms C. and D., as follows.

				Admitted		Discharged
Cranham Lodge Sanatorium...	...	...	...	36	.....	24
Cheltenham Workhouse Infirmary	...	...	...	6	.....	2
Cheltenham General Hospital	...	...	...	4	.....	2
Royal National Hospital, Ventnor	...	...	...	1	.....	0
Cripples Hospital, Alton	...	...	...	1	.....	0
St. Michael's Home, Axbridge	...	...	...	0	.....	2

Sanitary Circumstances and Administration of the District.

Delancey Hospital for Infectious Diseases.

In the course of last year, upon the application of the former Board of Trustees, the management of this hospital was changed and is now vested in an independent trust committee consisting of representatives of the three local governing bodies who use the hospital, namely, the Cheltenham Town Council, the Cheltenham Rural District Council and the Charlton Kings Urban District Council. The relative importance and the interest in the hospital of these three authorities is indicated by their several populations, which bear the following proportions to one another according to the numbers of the last census.

Cheltenham 100, Rural District 10·7, Charlton Kings 9·1.

It will be remembered that the Medical Officer of Health of Cheltenham has hitherto had no definite post or connection with the management of this hospital, and concerning this matter, under date June 14th last, I presented the following report to the Public Health Committee. The connection which it advocates has not yet been arranged.

Delancey Hospital Management.

Report by Medical Officer of Health under date 14th June, 1915.

I call the attention of the Public Health Committee to my advice in this connection, many times reiterated, that the Medical Officer of Health of Cheltenham ought to be the Medical Superintendent of the Infectious Diseases Hospital serving the town, and Medical Adviser to the Committee managing this hospital. This is the position advocated by the Local Government Board for the Medical Officer of Health to occupy in a town like this, and there are many reasons why it should be so. The Medical Officer of Health is the person in whose hands lies the general management of infectious diseases that occur in the town. It is his particular duty to interest himself in the occurrence and prevention of infectious cases, and he has definite prescribed duties in this connection, and takes action under the notifications he receives when such cases occur in the town, using his discretion as to the sufficiency of any isolation proposed, and of the necessity or otherwise of sending cases into hospital. It is undesirable that his influence and interest should be cut, and he be separated from the management of cases after their entry into hospital, and of the hospital, as hitherto has been the case. Much has been said of the necessity for co-ordinating all the public health services under one head, namely, under the Medical Officer of Health, but for years past the Infectious Diseases Hospital has here been carried on independently of him, and this should now be remedied by appointing him Medical Superintendent of the hospital and Medical Adviser to the Managing Committee, as plainly he is the person best qualified to advise as to how the hospital should be apportioned and managed, and as to the entrance and discharge

of cases to and from hospital, so that the management shall be in the best interest of the town both from the point of view of prevention of infectious disease and finance.

Under any circumstances the Medical Officer of Health must require to be informed what his connection and powers are to be in relation to the hospital, and it cannot be expected that he will take any post that is not consonant with his position of Medical Officer of Health, and that recognised position which a Medical Officer of Health of such a town as Cheltenham is expected to hold.

The Early Notification of Births.

On September 1st of last year the Act requiring the notification of all births to the Medical Officer of Health, which had previously been an adoptive Act, and had not been adopted in Cheltenham, became by further legislation compulsory, and the births taking place in the borough have been notified accordingly. In connection with this notification there has been a few irregularities, but as the requirement was a new one here, and as the period during which it was in operation in 1915 was but four months, a too stringent criticism on this head is hardly called for, and a fuller comment upon the success of the Act will be possible at the end of another year. Practically all the births that occurred in the period were notified.

From September 1st to December 31st, 1915, inclusive, the following were the notifications received :—

Notifications by Doctors	...	...	...	63
„ „ Midwives	...	...	...	147
„ „ Private persons	...	...	...	7

			217	

According to the returns of births ultimately received from the local registrar as having taken place in the Borough of Cheltenham in the same four months, and which could have been notified, the number ought to have totalled 218, that is only one more than the actual number notified. This number was abnormally few owing to the diminished birth-rate.

In connection with this subject the Local Government Board and the Board of Education appeared to be anxious for this and other Sanitary Authorities to at once adopt active measures for dealing with newly born infants, and for assisting mothers prior to and during the lying-in period. The Local Government Board indeed, in the circulars they issued went a step further, and advised that public care should be extended to all young children from birth up to the age when school commences, when they become subject to the medical inspection of school children, and the medical treatment connected with it, which have been already established. In this way a definite public attention to the physical conditions and requirements of the whole period of childhood was advised by the Local Government Board to be arranged for.

The several reports which I made for the guidance of the Public Health Committee in this matter culminated in the scheme which follows. The main virtue of this or any such scheme lies in the provision made for

medical attention to poor mothers during the critical periods of expectancy and lactation, and to young children, by the establishment of maternity centres and infant dispensaries, and especially in the latter.

The scheme seeks to provide certain things immediately, and also suggests a sequence of extensions for after adoption. The method of medical attendance proposed has been practically dictated by the attitude of the medical profession towards such public medical work.

SCHEME.

THE SCOPE OF THE WORK.

(1). To receive at suitable centres expectant women, and mothers with children recently born, for instruction as to self care and care of infants. To assign to some competent person or persons the duty of giving them systematic addresses, and giving sympathetic hearing and answers to their complaints and questions, and to refer to the medical attendant any woman appearing to require special advice or assistance.

(2). To give practical help to mothers and expectant mothers in the matter of providing things and materials for their service during confinement and afterwards. To see that suitable arrangements are made for their attention by midwives and doctors, according to the apparent requirements of each case. To have available lying-in wards for special cases, and to make provision for the medical attendance of such special cases brought in for the purpose. To enter into agreement with any hospital or institution existing in the town to receive cases referred to them for care and treatment.

(3.) To receive at suitable centres infants and young children along with their mothers for consultation as to their bodily condition, management, dress, mode of feeding, ailments and treatment. To appoint a medical practitioner to be present at each of such infant clinics and consultations, to examine, diagnose and write prescriptions for any cases requiring it. To arrange for the dispensing of such prescriptions at conveniently situated pharmacies, whether for medicines or special foods.

(4). To make provision for the making and sale to mothers of simple and suitable garments for infants and young children, or for the mothers themselves.

(5). To appoint one or more competent and well qualified Health Visitors to visit the homes of such mothers and children, there to learn of conditions of expectancy of confinement, and of the new born and of older children, and incidentally to note any hygienic defects of the habitation. To direct such mothers with their children to the Maternity Centres and Clinics above mentioned, and to be in attendance at those centres and clinics at the time appointed for their arrival to receive them, to supervise any handling or weighing of children, and to direct the doctor's attention to any points requiring it of which she has made note.

(6). To make record of all the work done in a form that can be readily understood and summarised.

ESTABLISHMENTS.

These must consist of suitable rooms in which to carry on the Maternity Centres and Schools for mothers, and the infant clinics and consultations. Besides the School Clinic, which might be used as one of the required places, at least three other sets of rooms would be required,

being respectively situated to be convenient for mothers and children inhabiting the chief poorer quarters of the town. One should command the poor district of the East Ward, one be for the poor district adjacent to the Bath Road, and one in the North Ward. Probably others would be required later. At least two good sized, well lighted and ventilated rooms would be required at each centre, with access to lavatory accommodation, water supply and artificial light, and a means of warming in winter.

FURNITURE REQUIRED.

This would be of a simple nature, consisting chiefly of chairs and tables with weighing machines, and trifling extras, such as a little crockery, etc.

PAID STAFF.

The Medical Officer of Health.

Three Medical Practitioners to be nominated by the British Medical Association to attend at the Centres.

One or more consulting Obstretic Specialists to whom extraordinary cases could be referred.

One Health Visitor (to begin with) qualified as nurse and midwife, and preferably with some knowledge of house and personal hygiene.

A Contribution to the Funds of the District Nursing Association and Cheltenham Crèche would come under this heading. Important services can be rendered by the midwives and nurses which should be done through the Lady Superintendent of the Association. Thus they would call the Health Visitor's attention to cases of which they knew, requiring to be looked after, and so direct expectant and other women to the Centres. The exact mode of their duties and of the general assistance to be rendered by the whole staff of the Association would be a matter for arrangement, and which I believe it would not be difficult to arrange satisfactorily.

VOLUNTARY STAFF.

Ladies to assist in reception, instruction and entertainment of mothers and children, and otherwise to assist the Health Visitor at the Centres, to weigh children, and manage the clothing department, and to do secretarial and clerking work, etc.

SUPERVISING COMMITTEE.

The Town Council might nominate six members whose duty it must be to co-opt from outside the Council five lady members. The following bodies might be asked to nominate lady members to be so co-opted: The District Nursing Association, The Voluntary Health Society, The Managing Committee of the Crèche, The Trades and Labour Council (working women), The Woman's Co-operative Guild. If more than 11 members are desired it would be necessary to increase the number of Town Councillors in such proportion to the co-opted members as to give the Town Council a constant clear majority.

FINANCE OF FIRST YEAR.

<i>Current Expenditure.</i>				£	s.	d.
To three medical practitioners each to attend a Centre once a week (156 guineas) ... ..	...	...	...	163	16	0
To one Health Visitor ... ..	...	...	...	100	0	0
To rent, rates, heating and keeping of Centres, other than School Clinic, Say ... ..	...	...	...	70	0	0
Gratuitous provision of medicine, materials, etc., Say ...	...	...	...	20	0	0
Contribution to District Nursing Association, Say ...	...	...	...	25	0	0
Stationery, postages, and minor expenses, Say	21	4	0
				<hr/>		
				£400	0	0
				<hr/>		

Capital Expenditure.

To furniture for Centres, etc., etc., Say	£30	0	0
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I am,

Your obedient servant,

J. H. GARRETT.
Medical Officer of Health.

To the Sanitary Authority,
Borough of Cheltenham,
30th January, 1916.

Summary of Routine and other Sanitary Work done in the Health Department during 1915, with Notes thereon.

Report by the Chief Sanitary Inspector.

I herewith submit my report, as Sanitary Inspector for the Borough of Cheltenham, on the work carried out by the Inspectors of the Health Department during 1915. The work done includes house-to-house inspections, the inspection of schools, houses let in lodgings, common lodging houses, slaughter houses, food shops, bakehouses, cowsheds, dairies and milkshops, factories, workshops, workplaces and out-workers' premises, soldiers' billets and houses occupied by Belgian refugees, and the disinfection of clothing for Red Cross hospitals and also after cases of infectious disease.

The total number of inspections made during the year was 13,358. On 1,044 of the houses and premises dealt with, nuisances to the number of 2,251 were discovered, and in dealing with the sanitary defects from which they arose 590 preliminary and 267 statutory notices were served. The number of letters written and received with reference to the business of the department was respectively 487 and 388. In order to efficiently supervise sanitary work in progress arising out of notices served or specifications supplied to owners and builders for the abatement of nuisances and the rectification of sanitary defects, 1,438 visits were paid.

The complaints received at the office numbered 444 as against 425 received last year. All these were promptly investigated and dealt with as found necessary. Many of these were of the usual trivial character, and in a number of instances no nuisance could be discovered on the premises against which complaint was made.

In addition to the matters mentioned herein, a considerable amount of time is of necessity taken up in keeping various registers and records, in clerical work, in interviewing owners or agents of property and builders, and other administrative work which cannot well be tabulated.

The total number of sanitary inspections of the district, with the results, are fully set out in the appended table:—

Sanitary Inspection of District and Results.

Total number of Visits and Inspections	...	...	...	13,358
Special Inspections	...	...	...	748
House-to-house Inspections	...	...	...	826
Inspections of Work in progress	...	...	...	1,438
Interviews with Builders, etc.	...	...	...	526
Re-inspections	...	...	...	2,493
Visits to Slaughter-houses	...	...	...	2,370
„ Food Shops	...	...	...	766
„ Houses Let-in-lodgings	...	...	...	59
„ Common Lodging Houses	...	...	...	368
„ Cowsheds, Dairies and Milkshops	...	...	...	120
„ Bakehouses	...	...	...	79
„ Workshops	...	...	...	338

„ Schools	67
„ <i>re</i> Infectious Disease	1,627
„ <i>re</i> Public House Conveniences	210
„ Places where animals are kept	242
„ Soldiers Billets, Hospitals, and Belgian Homes	1,081
Complaints received	444
Number of Nuisances reported	2,251
„ Houses and premises dealt with	1,044
„ Legal notices served	267
„ Preliminary notices served	590
„ Letters written referring to notices	487
DRAINS—	
Drains opened and examined under Sec. 41, P.H. Act, 1875	120
Smoke tests applied to drains and soil pipes	224
Chemical „ „ „	20
Water „ „ „	597
Defective brick drains removed	46
New drains laid	132
Length in yards of stoneware pipe drains laid	2,045
„ „ heavy cast iron pipes laid	1,536
Manholes and inspection chambers provided	118
Intercepting traps fixed	80
Iron and stoneware gully traps fixed	397
Dip and Bell traps removed	25
Drains flushed	7
W.C.'s—	
New Waterclosets built	63
New W.C. pans of the wash-down type fixed	232
Old pan containers and long hopper closets removed	10
Flushing boxes fixed to W.C.'s	116
Flushing boxes repaired	128
Waterclosets and drains unstopped	114
Defective W.C. doors, seats, etc.	194
Lead traps and W.C. traps provided, and W.C. pans cleansed	146
SOIL AND WASTE PIPES—	
Soil pipes and ventilating shafts fixed	98
New waste pipes fixed, trapped, and disconnected	155
MISCELLANEOUS—	
Rooms cleansed and limewashed	862
House roofs, eaves gutters, and rainwater pipes repaired	247
New sinks and lavatories provided	157
Yards and areas asphalted or concreted	113
Ash receptacles (moveable galvanised iron, with covers)	225
Bakehouses cleansed and limewashed	16
Slaughterhouses cleansed and limewashed... ..	38
Common lodging-houses cleansed and limewashed	8
Overcrowding in dwellings abated	26
Samples of water taken for analysis	12
Accumulations of manure removed	101
INFECTIOUS DISEASE—	
Inquiries into cases of infectious disease	1,627
Notices to Schoolmasters and Schoolmistresses with regard to infectious disease	133
Notices to parents with regard to infectious disease	133

Notices to Free Library with regard to ditto	...	...	2
Articles of clothing disinfected after ditto	...	...	15,601
Rooms fumigated	...	...	440
Articles of clothing, etc., disinfected for outside Sanitary Authorities and private persons	...	...	686
Number of articles disinfected during the year for troops and military hospitals	...	...	11,726

House-to-House Inspection.

To comply with Section 17 of the Housing, Town Planning, etc., Act, 1909, which requires Local Authorities to make systematic house-to-house inspection of houses in their district let at a rental of £16 a year and under, we have made a survey of 760 houses and premises. Records of these inspections are kept in books, and these contain all the detailed information required by the Local Government Board.

The following tables give the number of houses inspected in the various streets of the town, the number occupied and void, and the results of the inspections.

NORTH WARD.

Name of Street.	No. of occupied houses in street.	No. of houses in which defects were found.	No. of houses without defects.	Total number of defects found.
Station Street	10	6	4	13
Waterloo Street	54	44	10	146
Tewkesbury Road	23	7	16	10
Cleveland Street	59	17	42	35
Whitehart Street	16	10	6	25
Devonshire Street	16	9	7	22
Bloomsbury Street	44	30	14	94
Stoneville Street	31	23	8	61
Totals	253	146	107	406

SOUTH WARD.

Upper Bath Street	35	15	20	42
Gratton Street	17	9	8	22
Mitre Street	25	5	20	19
Sandford Street	35	15	20	20
Exmouth Court	7	6	1	11
Commercial Street	23	8	15	22
Victoria Place	21	8	13	39
Totals	163	66	97	175

EAST WARD.

Name of street.	No. of occupied houses in street.	No. of houses in which defects were found.	No. of houses without defects.	Total number of defects found.
St. James' Street	52	32	20	99
Rosehill Cottages, } Rosehill Street.. }	6	5	1	18
Coltham Fields.....	7	5	2	9
Totals	65	42	23	126

MIDDLE WARD.

Short Street	13	2	11	2
Croft Street	29	6	23	10
Casino Place.....	17	14	3	87
Granley Road	68	27	41	53
Totals	127	49	78	152

CENTRAL WARD.

Orchard Place, } Swindon Road }	14	6	8	22
Orchard Cott, } Swindon Road }	4	1	3	1
Northfield Terrace	18	14	4	28
Brunswick Street.....	72	28	44	87
Hanover Parade	12	11	1	21
Dunalley Parade	32	9	23	16
Totals	152	69	83	175

SUMMARY.

WARD.				
North Ward.....	253	146	107	406
South Ward	163	66	97	175
East Ward	65	42	23	126
Middle Ward	127	49	78	152
Central Ward	152	69	83	175
Totals	760	372	388	1034

**Statement required by Local Government Board
under Article V. of the Housing (Inspection of
District) Regulation, 1910, in regard to the
inspection of dwelling-houses under Section 17,
of the Housing, Town Planning, etc., Act, 1909.**

No. of dwelling-houses specially inspected	...	...	...	...	760
No. of such houses considered as unfit for human habitation	...	...	...	...	5
No. of representations made to Local Authority	...	...	...	...	4
No. of Closing Orders made by Local Authority	...	...	...	...	4
No. of houses the defects of which were remedied without Closing Orders	...	...	...	...	755
No. of houses made fit for habitation after Closing Orders	...	...	...	...	2
No. of demolition orders made	...	...	...	...	0
No. of such houses in respect of which notices were served during 1915	...	...	...	...	577

General Character of Defects found to exist in dwellings inspected.

- (1) Lack of sufficient light and ventilation.
- (2) Insufficient water supply.
- (3) Insufficient w.c. accommodation.
- (4) Damp walls of living and sleeping rooms.
- (5) Lack of conveniences for decent living, *e.g.*, proper facilities for cooking and storing food, and washing accommodation.
- (6) Overcrowding.
- (7) Defective drainage.
- (8) Defective yard paving.
- (9) Defective ash receptacles.
- (10) General dilapidations.

Houses Closed as Unfit for Human Habitation.

56, Worcester Street.

1 and 2, Orchard Cottages, Swindon Road.

2, Crump's Court, Hewlett Street.

Cottage at Fiddler's Green.

Two houses closed during 1914, viz., 47a, Duke Street, and 11, Grove Street, have been thoroughly repaired and brought up to our requirements as set out in the specifications supplied to the owners of the properties. An Order determining the Closing Order was made in each case by the Local Authority.

The house, 2, Crump's Court, was in such a bad state of repair, that the owner recognised it was impossible to make it fit for human habitation, and so had the site cleared.

House Drainage.

During the year the drains of 158 houses were examined or tested, and as a result of such test 146 were found to be in some degree defective, of this number, 132 were re-constructed as the result of notices served upon the owners to lay new drains of salt glazed stoneware pipes, or heavy cast iron drain pipes. 38 drains were renewed in order to obtain a Corporation Sanitary Certificate.

In consequence of written complaints alleging a nuisance from defective drainage, the Council authorised me to open the ground and examine the drains of 120 houses and report upon their condition. In 108 instances insanitary conditions were found to exist, and notices under Sec. 41, Public Health Act, 1875, were served upon the persons responsible to repair or reconstruct the drains as required. This work involved the laying of 2,045 yards of stoneware pipes and 1,536 yards of heavy cast iron pipes with caulked lead joints. In connection with this work 597 water tests, 224 smoke tests, and 20 chemical tests were applied. In carrying out this work no less than 46 old defective brick drains were discovered and removed and replaced by new watertight pipe drains.

Corporation Sanitary Certificate.

There were 38 certificates granted as against 41 in the previous year, making the total of certificates issued since the commencement of this work, 1,207. The inspections in connection with this work frequently revealed grave defects in the drainage system and sanitary fittings of a house, when the owner or occupier were under the impression that everything was in perfect sanitary order. The periodical testing of drains and sanitary fittings is strongly recommended as being the best means of protection against the evils which may arise from insanitary conditions. All who are about to take a house are strongly advised, before signing any agreement, to insist upon an up-to-date inspection and a certificate of sanitary fitness of the premises.

HOUSES FOR WHICH SANITARY CERTIFICATES WERE GRANTED DURING 1915.

Situation of Premises.				Gross Annual Rental
Avondale Villas, King's Road, No. 2	...	...	...	£30
Abbotsford, Old Bath Road	...	...	...	60
Brooklands, Hatherley Road	...	...	...	70
Benton House, The Park	...	...	...	160
Bothaville, Eldorado Road	...	...	...	75
Clovelly, All Saints' Road	...	...	...	30
Calderwood, Montpellier Parade	...	...	...	80
Chester Villa, Painswick Road	...	...	...	31
Cadoxton, Leckhampton Road	...	..	...	36
Dewerstone House, Thirlestaine Road	...	...	...	175
Deerhurst, Portland Street	...	...	...	45
Eldon Road, No. 1 (Graefenberg)	...	...	..	30
Esmond, College Lawn	...	...	...	100
Grove House, Montpellier Grove	...	...	...	75
Hilgay Lodge, The Park	...	...	...	70
Heightley, King's Road	...	...	...	32
Hatherley Place, No. 10	...	...	...	35
Kilchberg Villas, No. 5, St. Luke's	...	...	...	25
Libertus Villas, Libertus Road, No. 2	...	...	...	24
Lansdown Parade, No. 1	...	...	...	48
Montpellier Terrace, No. 25	...	...	...	32
Montpellier Grove, No. 13	...	...	...	40
Moreton House, Oxford Place	...	...	...	35
Montague Lawn, No. 3, High Street	...	...	...	45
Pembury Lodge, Lansdown	...	...	...	96

Pyatt's Private Hotel, No. 1, Bayshill Villas	...	..	100
Park Place, No. 27	...	...	45
Percy House, Wellington Square	...	...	35
Park Place, No. 25	...	...	60
Pittville Lawn, No. 2	...	...	35
Sydenham Villas, No. 10	...	...	45
South Lawn, St. Mark's	...	...	50
Suffolk Parade, No. 25	...	...	27
The Limes, Painswick Road	...	...	36/10/0
The Jessamines, Church Road, St. Mark's	...	...	28
The Laurels, St. Stephen's Road	...	...	65
Upperton, Eldorado Road	...	...	70
Victoria Place, No. 33, Fairview Road	...	...	13

Inspections under the Factory and Workshops Act.

The whole of the workshops, workplaces, bakehouses, and outworkers' premises have been visited during the year.

The total number of workshops and workplaces now on the register is 432 as against 463 last year, a decrease of 31, and to these 637 visits have been paid.

During the year 12 new workshops have been registered, 15 workrooms have been measured, and cards setting out the measurements of each room have been supplied to the occupiers stating how many persons can be employed in each workroom.

OUTWORKERS.—The names and addresses of 125 outworkers were received from 27 employers. During the year 176 visits were made to outworkers' premises and 43 defects discovered and rectified. In the majority of these places the work was carried on under very satisfactory conditions.

BAKEHOUSES.—The whole of the bakehouses have been regularly inspected and have been cleansed or limewashed twice during the year in accordance with the requirements of the Act.

Report on the Administration of the Factory and Workshops Act, 1901, in connection with Factories, Workshops, Laundries, Workplaces and Homework.

1.—INSPECTION.

Premises.	Number of Inspections.	No. of Written and Verbal Notices.	Number of Prosecutions.
Factories (including Factory Laundries.)	18	4	Nil
Workshops (including Workshop Laundries.)... ..	544	66	„
Workplaces (other than Outworkers' premises included in Part 3 of this Report)	75	10	„
Total	637	80	„

2.—DEFECTS FOUND.

Particulars.	Number of Defects found	No. of Defects remedied.
Nuisances under the Public Health Acts :		
Want of cleanliness	110	110
Want of ventilation	4	4
Overcrowding	4	4
Other nuisances	24	24
Sanitary accommodation {insufficient ... ..	...	...
{unsuitable or defective	8	8
{not separate for sexes	...	...
Total	150	150

3.—HOME WORK.

Lists received from Employers.

Nature of Work.	Twice in the year.		No. of Inspections of Outwork'rs' Premises	Defects found and remedied
	Lists.	Outworkers.		
Making and Altering Wearing Apparel...	27	125	176	43

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.— (1).						Number.—(2).
Dressmakers	...	...	...	...	...	67
Tailors	...	...	...	...	...	52
Laundries	...	...	...	...	...	87
Bootmakers	...	...	...	...	...	39
Milliners	...	...	...	...	...	22
Bakehouses	...	...	...	...	...	55
Miscellaneous	...	...	...	...	...	110
Total number of Workshops on Register...						432

5.—OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories ...	1
Failure to affix Abstract of the Factory and Work- shop Act (s. 133)	4
Notified by H.M. Inspector of Factories	4
Reports (of action taken) sent to H.M. Inspector	1
Underground Bakehouses (s. 101)	9
Certificates granted during the year	Nil
In use at the end of the year	7

Slaughterhouses.

The number of private registered slaughterhouses in the Borough is 17, and to these 2,370 visits were paid. By far the larger number of these visits were made in the evening, as it is then when most of the slaughtering is done in this Borough.

The By-laws relating to slaughterhouses have, generally speaking, been well carried out.

Meat Inspection.

As in former years, a good deal of time and attention has been devoted to the inspection of meat. The following table shows the number of animal carcasses we have inspected during the last and previous years :

Number of carcasses examined at Private Slaughterhouses during 1914 and 1915.

	1914	1915
Beeves	1,235	1,432
Calves	98	118
Sheep	6,358	6,408
Pigs	3,503	3,425
	<u>11,194</u>	<u>11,383</u>

Number of animals slaughtered in the Abattoir during 1914 and 1915.

	1914	1915
Beeves	689	840
Calves	452	289
Sheep	4,101	3,882
Lambs	358	242
Pork Pigs	2,301	2,601
Bacon Pigs	122	143
	<u>8,023</u>	<u>7,997</u>

The amount of meat surrendered in 1915 was much less than in 1914, although the number of animals examined during last year were slightly in excess of those in the previous year. The number of beasts and pigs condemned on account of their being affected with tuberculosis is nearly the same as in the two previous years.

Unsound and Diseased Meat, etc., destroyed during 1915 as unfit for the food of man.

Description.	Cause of Seizure.
5 carcasses of beef	... tuberculosis
3 bacon pigs	... "
2 hindquarters of a cow	... "
1 carcase of beef	... enteritis and peritonitis
4 carcasses of mutton	.. emaciation
2 " "	... anasarca
1 " "	... decomposition
3 " "	... asphyxia
1 " "	... nephritis and jaundice
2 " "	... enteritis
5 pork pigs	... tuberculosis
11 " "	... liver disease and dropsy
17 " "	... rheumatoid arthritis
1 " "	... liver disease and jaundice
1 " "	... kidney disease and dropsy
1 " "	... peritonitis and pleurisy
3 " "	... swine erysipelas
1 " "	... decomposition
1 carcase of veal	... tuberculosis
1 " "	... jaundice and emaciation
7 hindquarters of beef	.. unsound
4 forequarters of beef	... "
10 sirloins and rumps	... "
11 beef kidneys	... "
4 legs and 1 saddle of mutton	... "
2 legs of pork	... "
1 box of tripe	... "
1 box of codfish	... "
1 box of cole salmon	... "
21 dozen eggs	... "

Three hundred and eighty-nine livers, lungs, or other internal organs of animals which were, on examination, found to be locally diseased, were surrendered and destroyed.

The total weight of meat, fish, and unsound food destroyed was 6 tons 8 cwt. 18 lbs.

Slaughter of Animals Act, 1914.

In July last a letter was received from the Board of Agriculture and Fisheries stating that representations had been made to them that immature stock and female animals suitable for breeding (and in some cases carrying young) had recently been slaughtered in unusual numbers, with the result that herds and flocks were being depleted and the supply of meat endangered.

The Board have power under the Slaughter of Animals Act, 1914, to take steps to check the undue slaughter of farm animals, but at that time the evidence of the extent to which this was taking place was inconclusive.

They asked that a detailed record be kept of the numbers slaughtered and for a copy of such record to be sent to the Board monthly in a prescribed form. These requests have been complied with so far as we have been able to obtain the information required.

The following are the returns supplied and which give the number of cattle, sheep and pigs inspected in the public and private slaughterhouses during 1913 and 1914 and from January 1st to May 1915, also a monthly return of the animals slaughtered from August 1st to December 31st, 1915.

During the period reported upon, viz., August to December, no contravention of the Maintenance of Live Stock Order of 1915 came under our notice.

Return of Cattle, Sheep and Pigs slaughtered and inspected in the Public and Private Slaughterhouses of Cheltenham during 1913, 1914, and from January 1st to May, 1915.

	1913		1914		1915, January to May (inclusive)
Beeves ...	1,385	.....	1,924	.....	1,123
Calves ...	682	.....	550	.....	539
Sheep ...	8,524	.....	10,817	.....	5,736
Pigs	4,118	.....	5,926	.....	4,469
	<u>14,709</u>		<u>19,217</u>		<u>11,867</u>

Return of the numbers of Cattle, Sheep and Pigs slaughtered at the Private Slaughterhouses from August 1st to December 31st, 1915.

Description of Animals.	Number Slaughtered.	Remarks as to age and condition.
Cows	22	Animals generally in a prime and well nourished condition. Average age 3½ to 4 years.
Heifers	345	Animals generally of excellent quality and well nourished. Average age 2 to 3 years.
Bulls	None	
Bullocks	142	Animals generally of good quality and in a prime condition. Average age two years.
Calves	25	Up to the month of October good quality. After October not so good.
Total	534	
Ewes	77	Average age 3 years and generally in a fairly good condition.
Other Sheep ...	2478	Average age 12 months, generally excellent quality.
Lambs	306	Average age from 4 to 6 months, and of excellent quality.
Total	2861	
Sows	14	Average age 2½ years and mostly of good quality.
Other Pigs	892	Average age 4 to 10 months, all sizes, and generally well fed and of good quality.
Total	906	

Return of the numbers of Cattle, Sheep and Pigs slaughtered at the Public Abattoir from August 1st to December 31st. 1915.

Description of Animals.	Number Slaughtered.	Remarks as to age and condition.
Cows	11	Animals generally in a prime and well nourished condition, on an average of 3½ to 4 years of age.
Heifers	404	Animals generally of excellent quality and well nourished. Average age 2 to 3 years.
Bullocks	14	Animals generally of good quality and in a prime condition. Average age 2 years.
Calves.....	33	Up to October good quality. After October not so good.
Total	462	
Ewes	67	Average age 3 years and generally in fairly good condition.
Other Sheep ...	1819	Average age 12 months, and of excellent quality generally.
Lambs	None	
Total	1886	
Sows	20	Average age 2½ years, and mostly of good quality.
Other Pigs.....	1240	Average age 4 to 10 months, and generally well fed and of good quality. All sizes.
Total	1260	

Dairies, Cowsheds, and Milkshops.

These places have been systematically inspected and found in a fairly satisfactory condition. At present there are upon the register 66 milkshops, and 16 farms.

Stables and other Places where Animals are kept.

All the stables in the borough and other places where animals are kept are visited periodically, especially during the summer months, with the view of preventing nuisances and the danger from the common house fly. The most frequent causes for complaint arise from the irregular removal of manure from stables and the dirty condition of pig sties. The following tables give a list of the nuisances discovered and abated in connection with the keeping of animals during the year :—

Stables and Manure Receptacles.

Accumulations of manure removed on notice	...	76
Manure receptacles without suitable covers	...	15
Defective manure receptacles ...	...	4
Insufficient „ „ „ „ „ „	...	5
Defective paving of stables	...	4
Insufficient drains of stables	...	12
Blocked „ „ „ „ „ „	...	6
Notices served <i>re</i> manure receptacles and stables	...	50

Pig-styes.

Dirty condition	...	...	...	11
Defective paving	...	...	...	14
No proper drainage	...	...	...	6
No cesspool or catchpit	...	...	...	4
Overflowing cesspools	...	...	...	12
Accumulation of manure	...	...	...	28
Uncovered cesspools	...	...	...	8
Pigs kept in contravention of bye-laws	...	...	...	4
Notices served <i>re</i> contravention of bye-laws	...	...	...	34

Offensive Trades.

The offensive trades carried on in this town are few in number. There are :—

- 2 Fellmongers.
- 1 Tallow Melter.
- 8 Tripe Boilers.
- 18 Rag and Bone Dealers.
- 20 Fried Fish Shops.

The Bye-Laws regulating these places have, on the whole been well observed, although it has been necessary to occasionally call attention to the desirability of removing garbage, etc., and to require a more thorough cleansing of the floors and yards at the close of working days.

Common Lodging Houses.

The number of Common Lodging Houses now on the register is eight. Four of these have been re-registered. The houses with their accommodation are as follows :—

20 and 21, Stanhope Street	...	...	21	Lodgers.
40, Stanhope Street	...	...	10	„
Cumberland Cottage, Grove Street	...	...	23	„
Cumberland House, Grove Street	...	...	31	„
Cumberland Villa, Grove Street	...	...	21	„
2 and 4, Grove Street	...	...	28	„
Rowton House, Grove Street	...	...	46	„
221, High Street	...	...	30	„
				—
				210
				—

368 visits of inspection were paid to these places, and it was found on the whole that they were well conducted, the Bye-Laws and Regulations being carefully carried out so as to leave little cause for complaint.

Sanitation of Schools.

The sanitary arrangements of the whole of the Elementary Schools in the town have been systematically inspected, and a number of defects discovered, these were reported to the School Managers, who had them rectified in due course.

The following table gives the nature of the defects found at the schools :—

Defective flushing boxes.
 Leaky flush pipes.
 Dirty walls and ceilings of closet apartments.
 Dirty seats of water closets.
 Broken seats of water closets
 Defective water closets.
 Defective ash receptacles.
 Defective eaves spouting.
 Leaky water taps.

A portion of the St. Philip's Institute premises in Leckhampton Road has been taken over by the Education Committee for temporary use as an Infants' School. The sanitary conveniences of the building were neither suitable or sufficient for infant use, so that it was necessary to provide six new water-closets and additional urinal accommodation.

Gooseberry Mildew Order, 1912.

During the Gooseberry season frequent examinations were made of the fruit exposed for sale in shops and hawkers' carts. There were no cases of the disease discovered. Leaflets were distributed to the fruiterers relating to the Order.

The Inspector of the Board of Agriculture paid us a visit to ascertain what was being done here in connection with the above Order.

Disinfection.

The following table gives the number and kind of things disinfected at the Steam Disinfection Station after cases of infectious diseases :—

Aprons ...	30	Collars ...	92	Sofas ...	2
Beds ...	128	Corsets ...	4	Gloves ...	18
Blankets ...	1150	Chairs ...	3	Handkerchiefs	597
Blouses ...	3	Cloaks ...	1	Hair Brushes	2
Boys' Suits ...	74	Curtains ...	60	Brushes ...	2
Bolsters ...	316	Cushions ...	32	Hats ...	111
Carpets ...	28	Dresses ...	26	Hassocks ...	1
Pyjamas ...	54	Dressing ...		Jerseys ...	14
Palliasses ...	22	Gowns ...	98	Mats ...	216
Pants ...	475	Scarves ...	24	Mattresses ...	384
Petticoats ...	47	Sheets ...	321	Tablecloths ...	26
Pillows ...	861	Shawls ...	99	Toilet Cloths ...	8
Quilts ...	218	Shirts ...	1019	Trousers ...	904
Rugs ...	115	Stockings ...	1502	Ties ...	25
Kilts ...	32	Sweaters ...	24	Towels ...	788
Coats ...	1735	Putties ...	1464	Vests ...	520
		Miscellaneous	1289		

Total number of Articles Disinfected ... 14,962.

In addition to the disinfection work done in connection with infectious disease a very large amount of extra work and overtime has devolved upon the staff in disinfecting goods from the Red Cross Hospitals, and belonging to the troops billeted here.

On the arrival of each batch of wounded men from the front, arrangements were made with the hospital authorities for the disinfection

of all articles of clothing, uniforms, kit bags, etc. All these things were collected from, and after disinfection, were returned to the various hospitals.

The total number of kits dealt with was 1,078. The total number of articles disinfected for the military hospitals and the troops stationed in the town numbered 11,726.

Billeted Soldiers.

During seven months of this year a considerable amount of additional work was placed upon the department in consequence of troops being billeted in the town.

In the early part of the year a couple of Gloucestershire Battalions, and a section of the Army Service Corps were stationed here, the former being billeted in 40 large void houses, chiefly in Lansdown District, and the latter in occupied houses in St. Paul's and Tivoli Districts. The troops had all left the town by the early part of May. Later in the year three Gloucestershire Battalions and three Companies of the Army Service Corps came here. One Battalion of the Gloucesters and the three Companies of the A.S.C. were billeted in large void houses previously occupied by the 9th and 10th Gloucesters, the other two Battalions being billeted in private houses in various parts of the town. 420 private houses in which soldiers were billeted were carefully inspected as to their sanitary condition, and steps were taken to have any sanitary defects discovered promptly rectified. The occupiers of the houses were requested to keep the bedroom windows open as much as possible, to keep all fire-places open, and immediately report to us the stoppage of any drain or any other nuisance.

At 30 of these houses it was found that overcrowding was taking place, the attention of the Army Medical Officer of Health was called to this matter, and prompt steps were taken to abate the overcrowding by removing some of the men to other houses.

A good deal of overcrowding also took place in the large houses. The measurements and cubic space of 140 bedrooms were taken, and those that were found to be overcrowded were reported to the Officer Commanding, who took immediate steps to abate the overcrowding, by taking three additional large houses which gave them all the space they required.

These large houses were inspected weekly, every attention being given to the cleanliness of the floors and premises, storage of food supplies, larders, cooking kitchens, etc. The sanitary arrangements were also carefully examined to see that everything was in good working order. A good number of defects were noticed on these inspections, but these were immediately attended to on my calling the attention of the Army officer to them.

Special arrangements were made for the inspection of the various meat foods supplied to the troops, and where any of these materials were produced or prepared in the district periodical visits were made to the places of preparation with a view to controlling the soundness and wholesomeness of the materials employed and the sanitary conditions under which they were prepared.

A. E. HUDSON, F.S.I.A.,

Chief Sanitary Inspector.

ANNUAL REPORT
UPON THE
Meteorology of Cheltenham,

BY
MR. A. C. SAXBY,
FR, MET. SOC.,
BOROUGH METEOROLOGIST,

FOR THE YEAR 1915.

LATITUDE $51^{\circ} 53' 45''$ N. LONGITUDE $2^{\circ} 3' 21''$ W.
HEIGHT OF BAROMETER ABOVE MEAN SEA LEVEL, 206ft.

THE INSTRUMENTS ARE OF THE HIGHEST QUALITY
AND HAVE BEEN VERIFIED AT KEW.

*To the Mayor, Aldermen and Councillors of the
Borough of Cheltenham.*

GENTLEMEN,—

I have pleasure in submitting to you my Annual Report for Cheltenham during the year 1915, being the 38th year during which records have taken.

The observations have been taken twice daily by myself or qualified assistant. The Sunshine Recorder at Pittville has been very carefully attended to by the Custodian of the Pump Room, the charts being brought in with regularity.

The weekly reports have been published in the "Gloucestershire Echo" and "Cheltenham Chronicle."

I beg to tender my best thanks to those observers who have sent me returns from various stations over the county, and to all who have assisted me in the work.

I am, Gentlemen,

Your obedient servant,

AUSTIN C. SAXBY,

F.R. MET. SOC.,

Borough Meteorologist.

February, 1916.

THE METEOROLOGY OF CHELTENHAM.

Abstract of Meteorological Observations taken by A. C. SAXBY, F.R., Met. Soc., Borough Meteorologist.

Latitude 51° 53' 45" N. Longitude 2° 3' 21" W. For particulars see next page.

1915. Month.	Corrected Mean of Barom. 9 a.m. & p.m. At sea-level.	AIR TEMPERATURES.										Relative Humidity at 9 a.m. and p.m.	Rainfall.		Bright Sunshine HOURS
		Means of			Absolute Max. and Min.				Total fall	No. of Rainy Days.					
		Dry Bulb 9 a.m. & p.m.	Max.	Min.	Max.	Date.	Min.	Date.							
January	INCHES. 29.750	° 39.8	° 44.0	° 35.1	° 53	° 26	14	° 30	IN.: 4.16	15	39				
February.....	804	40.6	46.2	33.7	53	24	3	25	4.52	20	93				
March	982	41.3	48.9	35.2	56	26	5-6-23-24	28	1.09	9	104				
April	986	46.6	55.0	38.2	69	30	28-29	2	1.38	10	148				
May	984	52.7	63.5	43.2	76	32	26	15	2.85	9	246				
June.....	984	59.3	69.9	50.0	78	41	8	2-19	1.27	6	244				
July	980	59.3	67.3	51.8	73	46	3	30	3.50	19	172				
August.....	986	60.5	69.1	53.5	75	44	10-11	30	4.32	16	164				
September ...	986	56.0	66.5	47.8	77	37	18	30	0.72	6	195				
October.....	985	48.5	55.1	43.3	64	32	13	1	2.86	13	58				
November ...	984	36.8	43.6	31.5	53	22	8	27	1.68	7	71				
December.....	802	42.2	48.0	36.9	57	23	7-10	13	4.44	24	28				
Means	29.934	48.6	56.4	41.7					Total for Year.	154	1562				
Column	1	2	3	4	5	6	7	8	10	11	12				

COMPARATIVE TABLE OF THE METEOROLOGY OF CHELTENHAM FOR THE YEARS 1878-1915.

A division has been made in the returns comprising this table, keeping the years previous to 1903-1915, when the instruments were removed to Montpellier Gardens, this situation being more central and giving more accurate observations of Cheltenham than formerly.

This is especially marked with regard to Humidity of the town. The former position was on the extreme North side of Cheltenham, the screen then being within a short distance of the stream of water which at that part forms the boundary between the Borough and Prestbury, and was thus detrimental to the natural dryness of the atmosphere.

Year.	Atmospheric Pressure.	MEAN AIR TEMPERATURES				Humidity.		Rainfall	
		Max.	Min.	Mean	Range	9 a.m.	9 p.m.	Inches.	Days.
	INCHES.	°	°	°	°	%	%		
1878	29.913	56.1	41.5	48.8	14.6	83	88	33.18	176
1879	29.944	52.2	38.5	45.3	13.7	87	89	32.63	212
1880	29.971	55.8	40.5	48.1	15.3	85	88	33.72	177
1881	29.957	55.0	38.9	46.9	16.1	82	85	25.28	185
1882	29.914	55.9	41.5	48.7	14.4	81	86	37.92	214
1883	29.964	55.6	40.6	48.1	15.0	85	89	29.93	204
1884	29.978	56.8	41.9	49.3	14.9	84	89	24.04	190
1885	29.930	54.8	40.0	47.4	14.8	84	87	26.45	193
1886	29.912	55.0	40.6	47.8	14.4	83	86	32.55	193
1887	30.029	55.3	38.6	46.9	16.7	80	83	22.78	153
1888	29.959	53.8	40.1	46.9	13.7	82	84	28.85	195
1889	29.971	55.4	40.6	48.0	14.8	84	87	27.07	181
1890	29.959	55.6	40.1	47.8	15.5	84	88	20.09	191
1891	29.957	55.1	40.0	47.5	15.1	83	87	33.14	192
1892	29.948	54.6	38.7	46.6	15.9	82	85	19.45	175
1893	29.990	59.1	41.3	50.2	17.8	81	83	19.91	169
1894	29.963	56.2	41.6	48.9	14.6	83	87	29.12	194
1895	29.923	56.2	39.6	47.9	16.6	83	87	24.99	174
1896	30.030	57.0	41.4	49.2	15.6	83	86	21.54	185
1897	29.969	56.8	42.8	49.8	14.0	82	86	26.23	191
1898	30.009	58.2	42.5	50.3	15.7	82	85	24.23	173
1899	29.989	58.5	41.2	49.8	17.3	81	85	25.72	162
1900	29.928	57.3	41.1	49.2	16.2	80	84	28.44	203
1901	29.966	56.2	40.1	48.1	16.1	79	83	23.27	169
1902	29.906	56.9	42.4	49.6	14.5	84	87	22.53	176
Means	29.959	55.9	40.6	48.2	15.3	82	86	26.92	185
1903	29.883	55.8	43.0	49.4	12.8	82	84	35.7	215
1904	29.988	55.7	42.8	49.2	12.9	80	84	22.4	177
1905	30.005	55.7	42.9	49.3	12.8	79	83	23.8	165
1906	29.985	56.8	43.4	50.1	13.4	78	82	24.5	164
1907	29.966	55.4	43.1	49.2	12.3	80	85	29.0	174
1908	29.803	56.8	41.9	49.3	14.9	81	84	20.2	158
1909	29.956	55.1	41.7	49.3	13.4	82	84	27.9	191
1910	29.968	55.6	43.0	52.6	12.6	85	87	31.3	175
1911	29.780	59.3	43.9	50.6	15.4	81	83	22.3	145
1912	29.955	56.5	43.3	49.8	13.5	82	88	29.5	190
1913	29.974	57.1	44.1	50.6	13.0	82	86	26.7	158
1914	29.962	69.1	32.7	50.9	17.4	86	87	27.4	167
1915	29.934	56.4	41.7	49.0	14.7	80	85	32.8	154
Means	29.936	57.0	42.0	50.0	13.8	81	85	28.7	172

NOTES ON THE TABLES.

(See page 51.)

COLUMN 1 is the mean reading of the Barometer at 9 a.m. and 9 p.m., corrected for temperature— 32° Fahrenheit—and reduced to mean sea-level, the instrument being kept at 397, High Street, 206 feet above mean sea-level.

COLUMN 2 is the mean of Dry Bulb readings in the screen, both at 9 a.m. and 9 p.m.

COLUMNS 3 AND 4.—The maximum and minimum thermometers are read and set at 9 a.m. and 9 p.m., and entered to the same day. Instruments and screen are in Montpellier Gardens, 216 feet above mean sea-level.

COLUMN 9.—The relative humidity is calculated by dividing the elastic force of aqueous-vapour at the temperature of the dew-point for the month by that corresponding to the actual temperature of the air.

COLUMN 10.—The rainfall is taken at 9 a.m. and the total entered to previous day. The rain gauge, placed within the enclosure at Montpellier Gardens, is of Snowdon pattern, 5 inch size, the rim being one foot above the ground.

COLUMN 12.—The amount of bright sunshine is registered by an improved Campbell Stokes Recorder, which is mounted on the top of Pittville Pump Room. Prior to 1908 Jordan's Twin-cylinder Recorder was used.

Remarks on the year 1915.

JANUARY.—The year opened with a low Barometer, remaining so the entire month.

Temperatures were mild throughout.

Rainfall heavy, the total for the first three weeks being nearly four inches.

FEBRUARY.—The remarks for January apply to February, rainfall, over four and a half inches, there being only five days without rain.

A good supply of bright sunshine.

MARCH.—Atmosphere during the first 14 days was light, increasing during the latter part.

Temperature still mild during the first three weeks, then some low reading on the grass was recorded.

Rainfall on nine days only, the total being slightly over an inch.

Bright sunshine, a good supply, there being over 104 hours, and only four blank days.

APRIL.—Atmospheric pressure was lighter than the average.

Temperature also rather above the mean. Rainfall light, there being 20 dry days. Bright sunshine totalled nearly one hundred and fifty hours, and only three blank days.

No snow or fog the early part of the year.

MAY.—Barometer readings were rather higher than the average. Temperature warmer than usual.

Rainfall was heavy during the month, over two and three-quarter inches on nine days, one inch or more being registered on the 13th and 17th respectively.

Bright sunshine, a good supply, the average for 17 days being more than eleven and a half hours.

JUNE.—Atmospheric pressure about the same. Temperature above the mean, the warmest day of the year being on the eighth.

Rain fell on six days only, the 25th accounting for 0.87 inch out of a total of 1.27 inch. Thunder occurred on the 8th, 25th and 30th, on the latter date the lightning doing some slight damage in the town.

Bright sunshine was registered on each day, only on six days was less than three hours registered.

JULY was a very variable month, the Barometer standing a little lower than normal. Temperature uniform and slightly above the average.

Rainfall great; there being only 11 dry days.

Bright sunshine a good supply, considering the wet month, there being only one day when sunshine was not registered. Thunder on the 4th only.

AUGUST.—Atmospheric pressure was light the early part of month, increasing towards the middle and latter part. Temperature slightly above the average, the maximum of 75° being reached on 10th and 11th.

Rainfall above the average, the total being four and one third inches. On the 2nd rain fell most of the day, but two inches was registered during the early morn of the 3rd, one inch falling between 1.45 and 2.45 a.m., but no thunder accompanied it. 0.84 of an inch fell during the early morn of 14th. Thunder was heard on the 12th and 13th.

Bright sunshine was not up to the average, but there was only two blank days.

SEPTEMBER.—Atmospheric pressure was much more satisfactory the first half of the month, and above normal the latter part. Temperature much above the average, the highest, 77° , being recorded on the 18th.

Rainfall much below normal, the total for the month not reaching three quarters of an inch, five-sixths of which occurred on the 24th and 28th, there being only three other wet days.

Bright sunshine was again plentiful, there being only four blank days. Thunder and lightening was observed on the 1st and 2nd, but little or no rain accompanied.

OCTOBER.—Atmospheric pressure was within the average range. Temperature slightly above the average, the highest being 64° on the 13th.

Rain fell on 14 days, the total being 2.86 inches, the heaviest amounts being 0.59 on the 24th, 0.32 on the 25th, 0.30 on the 28th, and 0.39 on Nov. 1st, all taking place during the early hours of those days.

Fogs were very unusual during the month, the thickest for some years was experienced on the 18th, it being heavy the whole of the day. Also on the 4th, 5th, 15th and 17th, fog was registered at 9 a.m. Notwithstanding all this, on six days only sunshine was not recorded, the other days totalling a fair average.

NOVEMBER.—Atmospheric pressure was not up to the average, a low reading of 28.750 inches being recorded on the 12th.

The month was a very cold one, the average temperatures being below the mean, on 15 nights the thermometer on glass registered below 20° .

A very heavy fog hung all day on the 27th.

Rainfall was light for the month, recorded on seven days only, half of which—the total being 1.68 inch—was experienced on the 11th.

DECEMBER.—This was a very depressing month to finish the year, several Barometer readings below 28 inches being taken.

Temperatures were above the normal.

Rainfall was very heavy, 4.44 inches total, there being only seven dry days. A little snow fell on the 12th. Fog was recorded on 17th and 19th.

